

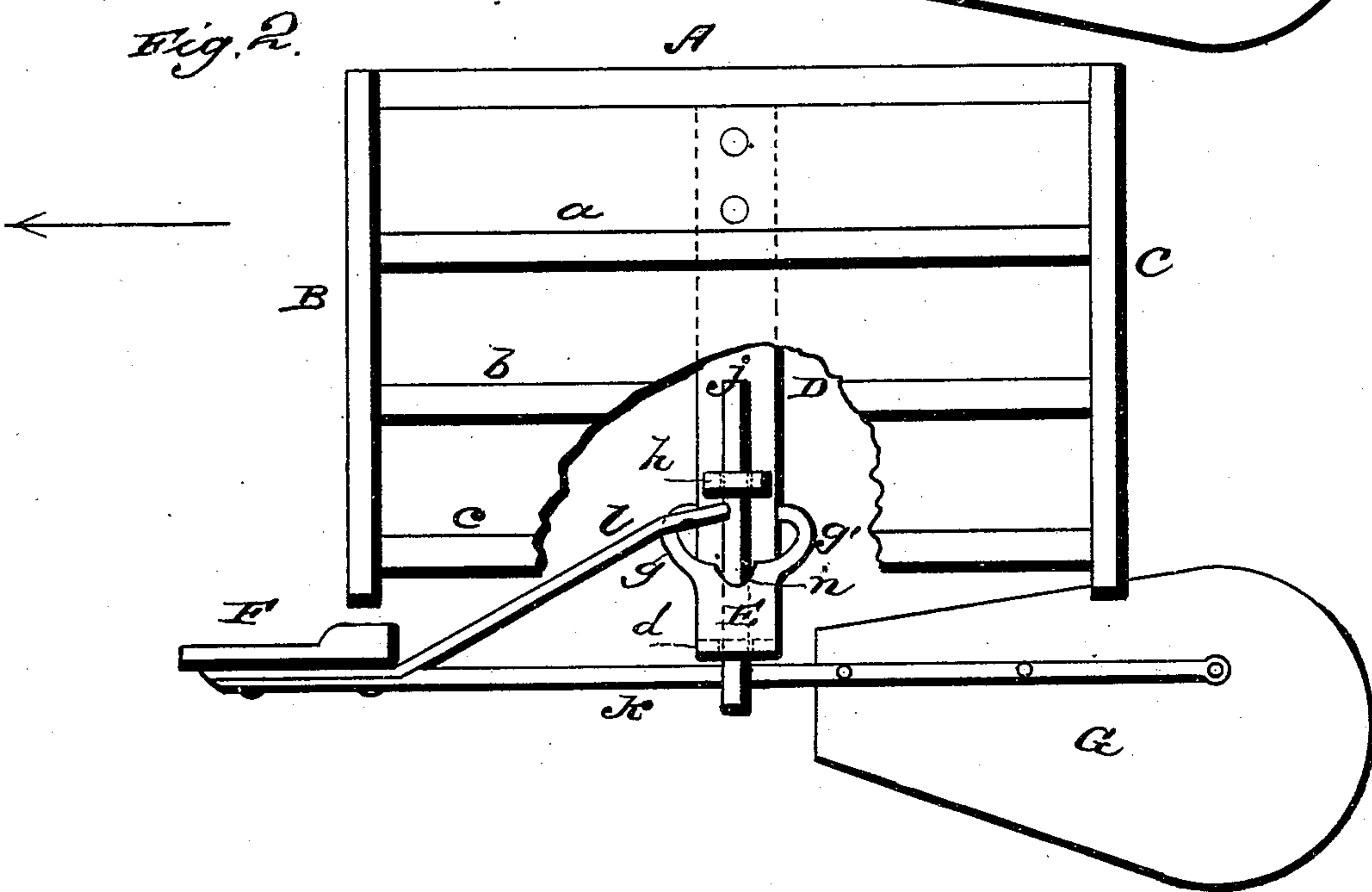
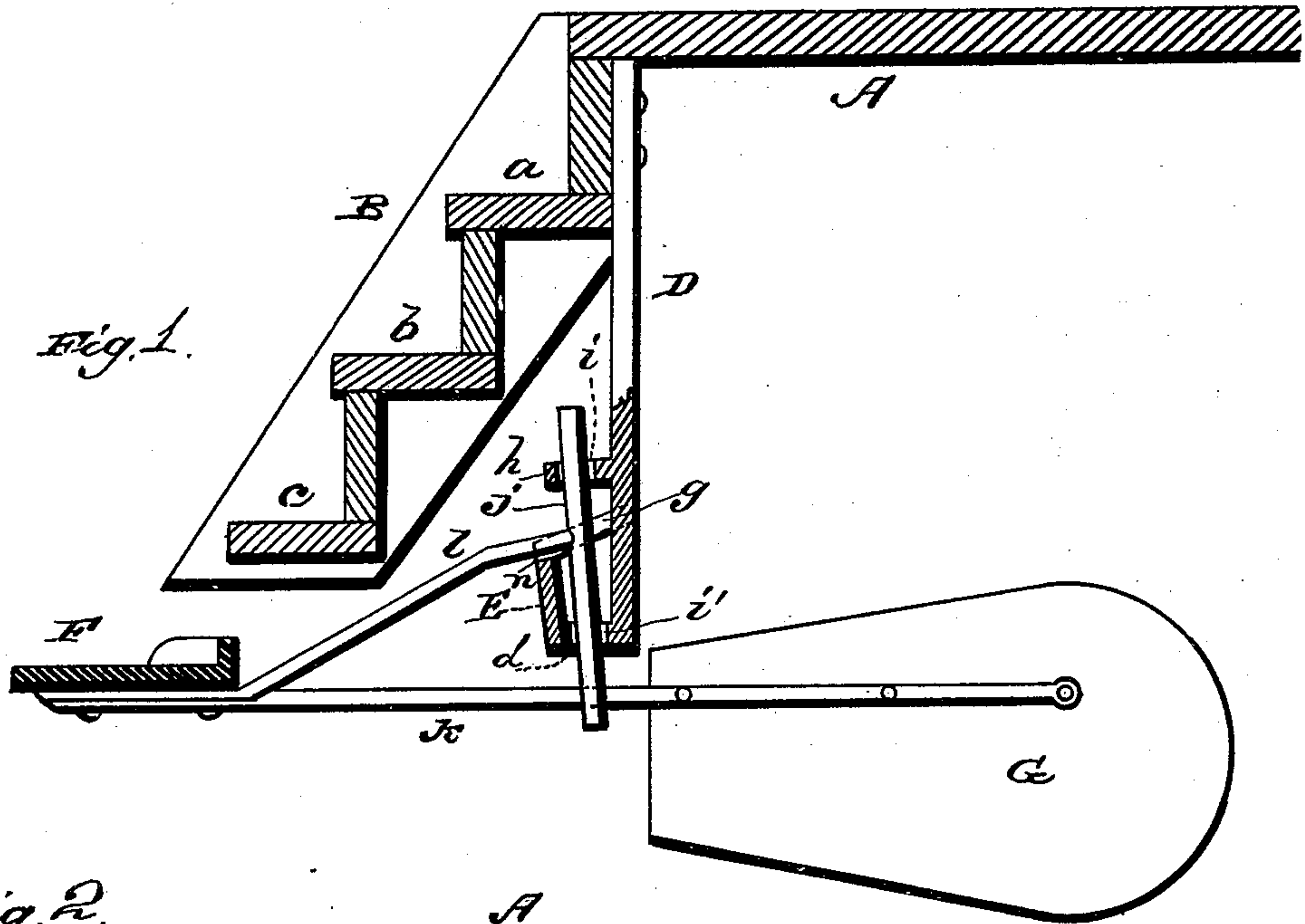
(No Model.)

W. R. WILCOX.

CAR STEP.

No. 300,668.

Patented June 17, 1884.



WITNESSES
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John T. Morrow.

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UNITED STATES PATENT OFFICE.

WILLIAM R. WILCOX, OF ST. JOSEPH, MICHIGAN.

CAR-STEP.

SPECIFICATION forming part of Letters Patent No. 300,668, dated June 17, 1884.

Application filed March 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. WILCOX, a citizen of the United States, residing at St. Joseph, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Car-Steps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical sectional view of my device, and Fig. 2 is a side view of the same.

This invention has relation to improvements in movable steps for railway passenger-cars, and has for its object to provide a lower step in addition to the fixed steps ordinarily supplied, which will, when the train is at rest, be in the proper position for use, and when the train is in motion will revolve automatically, so as to place itself under the car out of the way of obstructions. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

The letter A represents the platform of the car, to which is secured the side frame-pieces, B and C, of the ordinary steps, *a b c*.

At the middle of the inner surface of the vertical portion of the top step, *a*, is secured a vertical flat iron bar, D, which extends downward to a point below the lowest fixed step, and is here secured by the short horizontal cross-piece *d* to a short parallel upwardly-projecting bar, E. This bar terminates in a forked portion, the two parts *g g'* of the fork being bent backward, so that they lie in the same plane, inclined downward and forward, and their ends inclose between them the vertical bar D.

The construction described may be used, and the parts consisting of the vertical bar D, connecting-piece *d*, and vertical bar E made separately, and secured to each other, as described; or they may be made in one piece and bent in proper angles to form the construction shown. A notch, *n*, is provided in

the upper edge of the bar E, between the parts *g g'*, at the place where these parts begin to fork.

A short distance above the forked parts *g g'* is secured to the bar D, on its outer surface, the small horizontal plate *h*, which is provided with an aperture, *i*.

Through the aperture *i* and a similar aperture, *i'*, in the cross-piece *d* fits loosely a vertical cylindrical rod, *j*, to which is secured, at its lower extremity below the cross-piece *d*, a cylindrical iron rod, *k*, and at its upper portion is secured, at its rear end, a brace, *l*, which in its normal position rests in the notch *n*. The brace *l* projects downward and forward, and is secured to the under side of the movable step F. The rod *k* is horizontal, and is also secured at its forward end to the under surface of the step F, and has secured at its rear portion, back of the vertical rod *j*, a vane, G, which is in the same vertical plane as the rod. The step F, in its usual position, is the same distance in front of and below the lowest of the fixed steps *c* as any one of the fixed steps in front of and below the one immediately preceding it. In this position the vane G will be in a plane at right angles to the length of the car, and the brace *l* will fit into the notch *n* and hold the step steady. When the train is in motion, the draft created under the car acts on the vane G with sufficient force to make the rod *j* rotate in the apertures *i i'*, carrying the step under the car and out of the way of obstructions. During this rotation the brace *l* bears upon and moves over one of the parts *g g'*, depending on the direction in which the train moves. As the train moves more slowly, the pressure on the vane G becomes less, and the weight of the parts, acting through the brace *l*, will, on account of the inclination given to *g g'*, bring the step back to its former position. Thus the motion of the train simply removes the step out of the way, and when the train comes to rest, which is the only time when the step is needed, it is returned to the proper position for use by its weight only, so that the action is entirely automatic. If the train is running so slowly as not to produce sufficient pressure to move the step from its

normal position, still, should the step strike any object, it will turn easily and no damage will be done.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with a car, of a pivoted or hinged step having means, substantially as shown, by which the step may be brought under the car-body or fixed step through the force of the atmosphere caused by the momentum of the car.

2. The combination, with the platform of a car, of a hinged step having a vane connected thereto, and provided with a stop, whereby the step may be automatically operated by at-

mospheric pressure created by the momentum of the car, substantially as specified.

3. In combination, the movable step F, horizontal rod *k*, vane G, brace *l*, rod *j*, bar D, horizontal plate *h*, provided with the aperture *i*, cross-piece *d*, provided with the aperture *i'*, and bar E, provided with the notch *n*, and terminating in the forked inclined portion *g g'*, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM R. WILCOX.

Witnesses:

ED. JOHNSON,
NELSON ANDERSON.